

PULP PAPER & LOGISTICS

VOLUME 11 NUMBER 61

July/August 2020

ABB: A new era of cost-effective and efficient mill management

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INDUSTRY NEWS

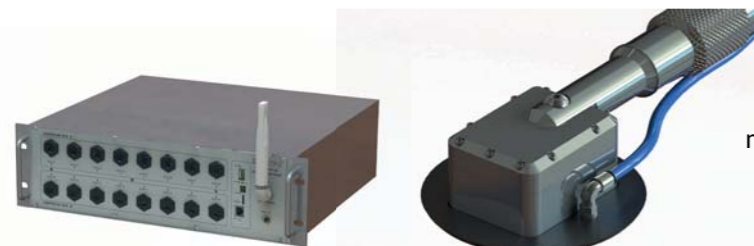


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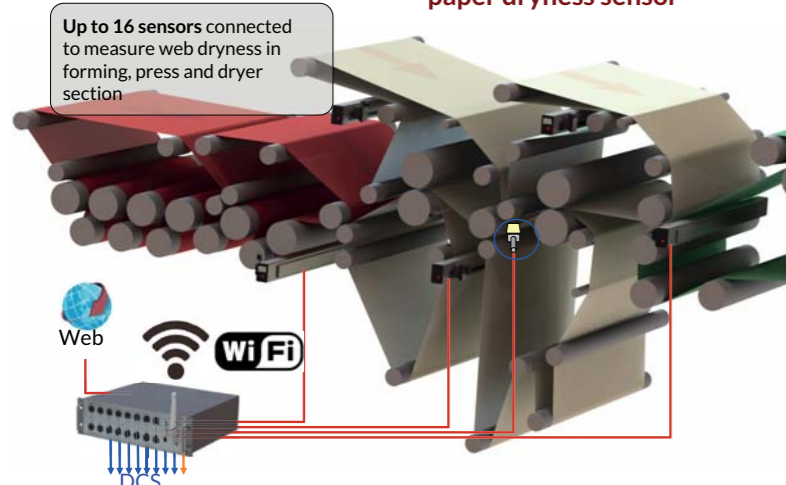
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COMMENT

Welcome to the July-August issue of Pulp, Paper & Logistics.

With lockdown measures being eased across Europe, many in the pulp and paper industries will be relieved to see how demand for paper-based products during the coronavirus pandemic has managed to remain buoyant.

There was increased demand from personal-hygiene suppliers for masks and cleaning wipes, while food packaging producers and the health sector experienced rising demand that highlighted how diverse our industry is and the key roles that paper, tissue, board and corrugated play in every part of our lives.

But for those who arrange events in our industry this has also been a period of uncertainty with some events being cancelled for this year, or moved into 2021.

However, recent announcements have confirmed that MIAC at Lucca in Italy will go ahead this year (under new government guidelines) from 14-16 October (www.miac.info/en/) and Packaging Innovations & Luxury Packaging London, which was due to take place on 23-24 September at Olympia, London, has been moved to 8-9 December (www.packaging-london.com/).

Looking ahead to our next issue for September-October, we will be featuring MIAC 2020 pre-show news; tissue production and processing; and forming fabrics. Editorial submissions should be with us no later than 18 September by email to me at pulppaperlogistics@virginmedia.com.

Vince Maynard, Publisher

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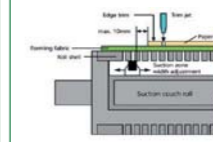
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PULP PAPER & LOGISTICS

Paper industry hits record recycling rate for 2019

The recycling rate for paper and board in Europe, along with recycled content, hit a new record in 2019 according to the Confederation of European Paper Industries (Cepi).

Although paper and board produced by Cepi member companies was down 3.1 per cent last year at 89.6 million tonnes, the recycling rate edged up to 72 per cent, from 71.7 per cent in 2018. Of the total produced, 54.6 per cent was based on recycled fibres, compared to 53.1 per cent in 2018, as indicated by the utilisation rate of Paper for Recycling (PFR).

"More than ever, paper for recycling is a major source of fibres while the share of domestic wood used by the pulp and paper industry reached 84.2 per cent in 2019 (84.1 per cent in 2018), demonstrating that we are truly 'Made in Europe from European raw materials,'" said a statement



Paper and board recycling hit a record 72 per cent in 2019.

from Cepi. "Of wood consumed, a large share (24 per cent) is also circular as it is residues from saw mills and wood working industries. Our industry is also a net exporter with 22 per cent of our production exported outside Europe."

At 38.1m tonnes, total pulp production was down 0.7 per cent but market pump production was up 6.7 per cent at 15.4m tonnes. Market pulp exports grew by 48 per cent in 2019.

The paper and board industry suffered less than others due to

the impact of the coronavirus pandemic. Output was down 4.5 per cent, compared to 20.4 per cent in other industries, "showing that the impact was less pronounced than in other manufacturing sectors due to intrinsic resilience of our sector," said Cepi.

Paper and board consumption declined in 2019 following the slowing of the EU's economy. However domestic demand for hygiene papers (tissue, toilet paper, etc.) remained relatively

high in the first months of 2020, and packaging has been benefiting from e-commerce growth.

The structure of the pulp and paper industry remained stable compared with 2018, with five companies being lost in paper and board, down to 740. There were no changes in the 151 pulp producing companies in Europe. Five mills were lost, with the total now being 890, and the number of paper machines falling by three to 1,252.

The anticipated decline in European GDP in the EU and the euro area of 8.3 and 8.7 per cent respectively will likely impact the pulp and paper markets this year, said Cepi.

"However, in 2021, the EU economy is expected to grow by 5.8 per cent and the euro area economy will grow by 6.1 per cent bringing a positive outlook for paper and board markets as well, knowing that they will rebound," Cepi concluded.

Premium kraftliner that's tougher and lighter

Stora Enso has launched **AvantForte**, a kraftliner that enables corrugated packaging producers to expand into more demanding and premium segments and to meet brand owners' need for high-performing, safe and plastic-free packaging while using less materials.

Offered in brown or white kraftliner, AvantForte will be the flagship of Stora Enso's Avant product family of corrugated

packaging materials, produced from sustainably sourced virgin fibre.

Stora Enso is converting a paper making line at Oulu mill in Finland from woodfree coated paper to kraftliner. The converted board machine will start production in the final quarter of 2020.

"Meeting tightening food safety regulations and reducing weight of packaging require high-quality materials," says Henna Pääkkönen-Alvim, SVP containerboard



Stora Enso is investing in premium kraftliner for premium sectors

business unit.

While the current standard structure for kraftliners is based on two layers, AvantForte includes patent-pending technology Tri-Ply

by Stora Enso which equips the product with three fibre layers to maximise its strength, save weight per package and enhance printability.



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DS Smith is 'well positioned' for the future says management

DS Smith's prospects for the year to the end of April were described by management as 'well positioned for the future, despite economic uncertainty' with sales slipping 2 per cent to €6.04 billion.

Pre-tax profit was however up by 5 per cent at £368 million, with strong performance in Europe and growing market share.

Group chief executive Miles Roberts commented: "We have made good strategic and financial progress in the year, with the disposal of our Plastics division reinforcing our focus on sustainable fibre-based packaging



Key recycled paper mill: DS Smith's operation at Kemsley Mill in the UK

and our strong commercial focus driving record margin."

Niels Flierman, in charge of the

paper division, added: "A strong sales strategy, supported by record production figures in some of our mills, helped to drive our finished paper products directly into new markets has contributed to a good set of results in the Paper Division."

Flierman said there was some softening of demand in some markets due to the Covid-19 pandemic, but there were 'spikes' in others. "Of key importance was our ability to keep production and logistics moving," he said. "This allowed our packaging operations to continue to



DS Smith's paper chief Niels Flierman: good set of results

produce the recycled packaging products needed to deliver essential consumer goods and pharmaceuticals across Europe and North America."

• Multivac and DS Smith teamed up to design and produce ECO Bowl, providing modified atmosphere packs based on corrugated cardboard. ECO Bowl is a recyclable corrugated cardboard tray covered with a plastic skin film and lid film that reduces plastic by up to 85 per cent compared to a traditional tray.



ECO Bowl eliminates 85 per cent of the plastic in food trays

New organisation for Zellcheming-Expo in 2021

The next Zellcheming-Expo will be held from 9-10 June 2021 at a new venue, the RheinMain CongressCenter (RMCC) at Wiesbaden in Germany.

The event planned for June 2020 in the Frankfurt exhibition halls had been cancelled because of the coronavirus pandemic.

Zellcheming-Expo 2021 will be held alongside the Zellcheming

Association's annual general meeting.

Organisation of the show from this July is being taken over by Zellcheming Association. This includes the areas of organisation, visitor support as well as communication and marketing.

At the same time, cooperation with Mesago will continue:

The trade fair company will remain responsible for exhibitor

acquisition and services.

Petra Hanke, managing director of the Zellcheming Association, explains: "From our point of view, we have come full circle here: Although the RMCC was rebuilt at the old location, it is a highly modern and absolutely up-to-date congress centre.

"We are using the break caused by the coronavirus pandemic this year for the reorientation

of our concept, and against this background it makes sense that we will again have a direct influence on the content of the trade fair. But we also see it as a very positive signal that we can continue our partnership with Mesago."

More information from Petra Hanke by email at p.hanke@zellcheming.de Tel: 49 (0) 6150 544 84 04.



PULP & PAPER

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Paper takes over in wrapping multipacks

Producers of canned foods and drinks will be able to multi-pack in paper rather than plastic film using a tray packer from German packaging equipment manufacturer KHS.

The Innopack Kisters tray packer has been adapted to provide an alternative to shrink film or wrap-around cartons. KHS says the resulting secondary packaging is just as stable but with less energy consumption and materials.

With a few minor adjustments existing machines can also be converted to the new setup.

“Our customers now want alternatives to the usual packaging systems such as film. These should be as ecofriendly as possible,” says Karl-Heinz Klumpe, packaging product manager at KHS. “To this end, the paper wrapping has now been developed together with



Making savings in secondary packaging with paper

an international beverage producer for transportation or sale on packs of 12 or 24 cans. It operates at up to 90,000 cans per hour.”

Wrapping cans in paper has

many advantages over other materials, says Klumpe. “On the one hand, paper is kinder to the environment than film with respect to ocean pollution, for instance. Paper biodegrades in the

environment after a few weeks.”

Costs are also cut by the new paper pack: compared to a wrap-around carton by up to 15 per cent, with outgoings about the same as for film.

Mondi paper bag plant in Hungary upgraded

Mondi has completed the installation of paper sack converting machine at its Nyíregyháza plant in Hungary. The machine – a Windmüller & Hölscher AD 8320 / AM 8115 – enables the production paper sacks for food packaging, with a capability of producing 130 million a year.

With €7 million investment, the entire layout and set-up of the Nyíregyháza plant was re-designed in four months, including the storage area, printer area, warehouse, and ink kitchen to



Mondi's plant at Nyíregyháza is able to make 130 million bags a year

increase operational efficiency and safety.

Mondi's plant at Nyíregyháza is able to make 130 million bags a year

ChemSystems acquisition completed by Solenis

US-based Solenis has completed acquisition of the paper business of ChemSystems, a division of AECI Ltd.

Johannesburg, South Africa-based ChemSystems is a leading producer and supplier of specialised chemicals for water-intensive industries, including the pulp, paper and tissue manufacturers in Sub-Saharan Africa. The business will be integrated into Solenis as part of its direct-to-market

strategy.

“The purchase of paper business of ChemSystems represents another milestone in Solenis' growth strategy as we continue to clean up our channel to market following the merger with BASF's Paper and Water business,” said John Panichella, chief executive of Solenis, which has its headquarters in Wilmington, Delaware and employs 5,200 in 120 countries over five continents.

Paperboard trays with a thin plastic barrier can be recycled

New recommendations in the UK that allow paperboard packaging to contain a certain amount of plastic and still be considered recyclable have been welcomed by Iggesund Paperboard, which has introduced packaging that has up to 80 per cent less climate impact compared with all-plastic alternatives.

At the beginning of 2020, the UK labelling organisation OPRL (On-Pack Recycling Label) issued guidelines for how to recycle packaging made of paper and board with a plastic coating. The guidelines were developed in cooperation with the relevant



Iggesund's Inverform tray has a plastic film but can be recycled

industry organisations and specify which recycling label should be put on the packaging to advise consumers.

Under the recommendations, up to 15 per cent can be included in the paperboard

packaging for it still to be classified as recyclable and be sorted in the waste stream for paper materials. From January 2023 the permitted plastic content will be reduced to 10 per cent of the packaging's weight.

“This is a good decision which establishes clear rules for a number of years ahead,” comments Ginny Samuel, business development manager at Iggesund Paperboard.

“Those of us who work with paper- and paperboard-based packaging have been challenged to develop solutions using less material but we've also been given time to do this.”

Jonas Adler, director of new business development at Iggesund Paperboard, adds: “One solution that's very common in food packaging is to put the food in a tray, and plastic is most commonly used for this.

“We can replace it with our combination material Inverform, which is a paperboard tray with a thin plastic barrier. But it currently has a plastic content of over 10 per cent.

“Our solution reduces the packaging's climate impact by 80 per cent, so it would be a setback for sustainability work if this packaging solution were to be penalised.”

UPM closes its Chapelle newsprint mill in France

Annual operational savings of around €30 million are expected by UPM with the closure in July of its Chapelle newsprint mill at Grand-Couronne in France.

The Finland-based canmaker said it had not been able to find a buyer for the mill, which with one paper making machine had capacity to produce 240,000 tonnes of

newsprint a year. The capacity of the mill will not be replaced elsewhere in UPM's paper making portfolio.

UPM said it was offering support to the 228 staff to alleviate the effects caused by reductions in relation to the closing of the mill.

Anu Ahola, senior vice president for news & retail at

UPM Communication Papers, commented: “After UPM announced the intention to sell the Chapelle mill in September we started an active sales process and have been in discussions with interested parties since. However, we have not received binding offers by potential buyers.

“Consequently, we decided to

close the mill, while at the same time working with employee representatives to mitigate the social impact on our employees. We remain committed to selling the mill assets if we receive a suitable offer.”

UPM employs 18,700 people worldwide with sales of about €10 billion a year in pulp, paper, biofuels, energy and forestry.

BillerudKorsnäs simplifies its structure

Paper-based packaging manufacturer BillerudKorsnäs is being reorganised with a simplified structure from the beginning of August, in advance of new chief executive Christoph Michalski joining in November (see People section).

The Solna, Sweden-based company will have three

functional areas: Wood Supply, Operations and Commercial. In parallel, the resources for sustainability and innovation will be grouped in a common new function, Sustainability & Strategic Development.

“We need to cater for rapidly changing customer needs for sustainable products and

solutions. The organisational structure now being implemented is one important step on a journey creating conditions that will allow a more optimal utilisation of our resources and enhance our ability to adapt to changes in the outside world,” said acting chief executive Lennart Holm.

In its interim financial reports for the first half of 2020, net sales were SEK6.16 billion (US\$672m), 2 per cent down on the same period in 2019 but net profit increased to SEK202 million (\$22m), up from SEK182m last year. The company is ramping up output from its new KM7 board machine at Gruvön.

Mitsubishi's German mills get re-certification for chain-of-custody

Mitsubishi HiTec Paper's mills at Bielefeld and Flensburg in Germany have successfully completed monitoring audits and re-certification for Forest Stewardship Council (FSC) Chain-of-Custody and Programme for the Endorsement of Forest Certification (PEFC) Chain-of-Custody.

Both locations continue to carry the FSC and PEFC certifications, and all coated speciality papers



Monitoring audits and re-certification have been completed at Mitsubishi's German mills

produced at the mills are still available as FSC Mix or PEFC certified.

"The world is facing major climatic and social challenges. It is therefore all the more important

for us to ensure that the raw materials we use and our products meet the highest standards in terms of sustainability and social responsibility," says Nic Holmer, sales & marketing director at Mitsubishi HiTec Paper.

Mitsubishi HiTec Paper Europe GmbH is a German subsidiary of Mitsubishi Paper Mills in Japan, a leading manufacturer of speciality paper. Mitsubishi HiTec Paper Europe produces high-quality direct thermal, inkjet, carbonless, label and barrier papers.

Extraction of probiotics could make larch more cost effective

A relatively cheap method of producing probiotics from larch wood chips has been developed by Hamrick Engineering, better known for its CelloFuel Portable Biomass Refinery, which enables the production of sugars and ethanol from sugar beet, sugarcane, sweet sorghum, softwood wood chips and straw.

The company has successfully and economically extracted arabinogalactan and taxifolin from larch (tamarack) wood chips, and been granted patents for this

technique in the countries with the most larch trees – the USA, Canada and Russia. This technique is said to be scalable to the sizes needed for large pulp and paper mills.

Arabinogalactan and taxifolin have been shown to have significant probiotic effects in both people and animals, and can aid in producing animal feed without antibiotics that can be labelled as 'organic'.

Ed Hamrick, president of Hamrick Engineering, says "We're

very excited about these excellent test results after many years of working on this technology. We've developed these technologies in Minneapolis, Minnesota and we've been consulting with a research institute in Saint Petersburg, Russia who have many years of experience working with arabinogalactan and taxifolin.

"Our aim is to find partners in some of the large pulp and paper mills in Russia and Canada. These mills have access to millions of

tons per year of larch wood and have the infrastructure in place for harvesting, chipping and pulping this wood. Our technology is a simple, low-cost add-on to existing pulp and paper mills."

Larch wood chips are much more valuable for making pulp and paper if the arabinogalactan and taxifolin are first removed, but this is difficult and few pulp and paper mills will currently accept larch (tamarack). After extraction of the arabinogalactan and taxifolin, the paper produced from these chips is said to be much stronger and more valuable than the paper produced without this extraction.

Bioeconomy is the theme of Pulpaper 2021

Innovations and future opportunities in the bioeconomy will be the focus of Pulpaper, the forest industry show being held from 27 to 29 April 2021 at Messukeskus in Helsinki, Finland.

With the theme 'Building tomorrow's bioeconomy', the aim is to bring professionals together

for a comprehensive introduction to the latest forest-industry technology.

Pulpaper will include a conference and related events, an evening programme, and excursions to Finnish industrial and research facilities. Around 400 companies are expected to

participate at the event, which was previously held in 2018, attracting more than 9,200 visitors.

"Companies in the forest-based industry are capable of offering many concrete solutions and technologies to address global challenges. Next spring, it is important for us to look ahead and

offer companies the opportunity to present these great solutions for building a sustainable future", explains Antti Lindqvist, managing director of Forest Products Engineers, which is supporting the event.

More information from www.pulpaper.fi #pulpaper2021



Lithium-ion batteries carry Yale's trucks into a second century

Yale is celebrating a centenary of producing electric trucks for logistics operations with a range extension using lithium-ion batteries.

In 1920, Yale & Towne introduced its first electric forklift truck to the materials handling market. With this release, alongside a wide range of new materials handling equipment, the Yale brand was born.

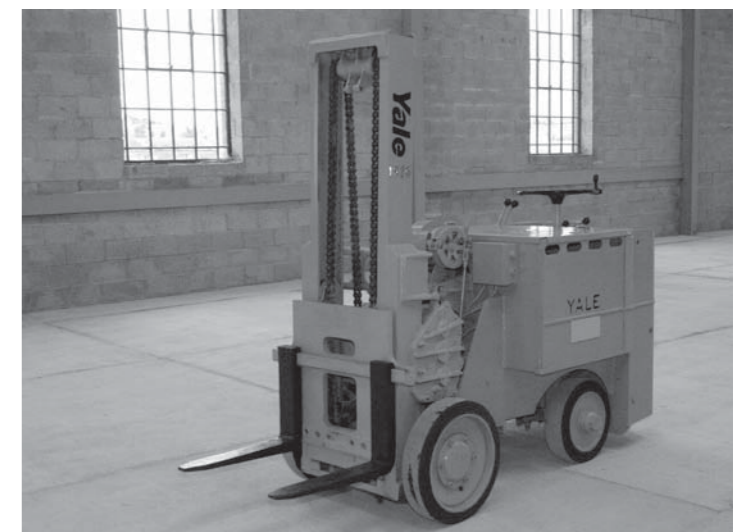
Electric and alternative power systems have since played an important part in the history of Yale:

- In the 1930s Yale developed power steering, centre-control trucks, caster steering and the use of high heat-resistant Class-H silicon insulation in electric motors.
- In 1964, Yale introduced

the first Silicone Controlled Rectifier (SCR) in a fork lift truck.

• A new generation of electric counterbalance trucks were introduced in 2009. "As a company we are incredibly proud of our heritage and reaching this 100-year milestone is something that all of our employees, clients and customers can be proud to be associated with," said Iain Friar, Yale brand manager for the EMEA region.

Previously available through Yale's Special Engineering Department, lithium-ion batteries are now available as standard across its electric truck range, from counterbalance forklift trucks up to 5.5t to warehouse rider and pedestrian trucks. The use of lithium-ion helps users optimise multi-shift



Yale is celebrating 100 years of manufacturing electric trucks

applications by eliminating the need for replacement batteries and battery change-overs.

"Use of lithium-ion batteries has seen rapid growth over recent years. Greater numbers of customers are finding this battery

technology commercially viable," said Ivor Wilkinson, solutions manager at Yale, adding that sectors including the paper and pulp industry reap the rewards of utilising a single battery for a multi-shift operation."

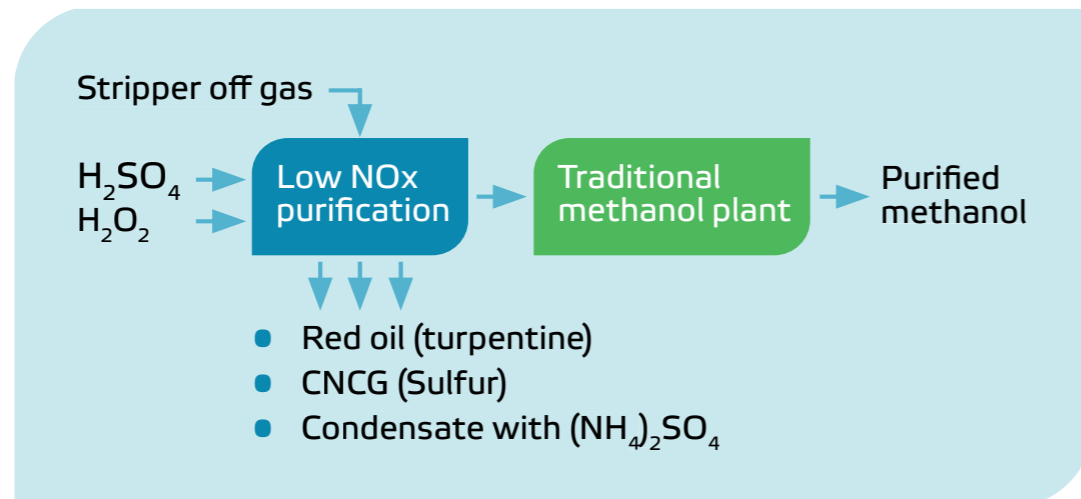
Unleashing the green value of methanol

Methanol, a by-product of pulp mill operations, has great potential. Its better use may help mills lower fuel costs, lower carbon footprint and increase productivity, writes Andreas Liedberg

Commercially-available methanol is primarily made from natural gas which is a fossil-based fuel therefore not carbon neutral. In contrast, pulp mill methanol is a renewable, green fuel. A mill produces some 10 to 15 kg of methanol per tonne of air-dry pulp (ADT), and this is enough to make many modern pulp mills operate without the need for any fossil fuel at all. Instead, they use liquid methanol that is produced and stored in the mill.

New purification technology

But using pulp mill methanol can be a challenge. It is concentrated in gaseous form in the evaporation plant, and after some heat recovery steps and the reduction of the moisture content, the gas is sent to either incineration, typically to the lime kiln or to the recovery boiler, or to a liquid



Existing methanol plants in pulp mills can be upgraded with a purification step located upstream from the methanol plant. The resulting purified methanol is a high-quality fuel that can be used at the mill or sold

methanol system.

The methanol is heavily contaminated and has a very strong odour. Handling is therefore difficult, and combustion results in emissions of NOx and SO2. The methanol can also vary in water content and quality, and this

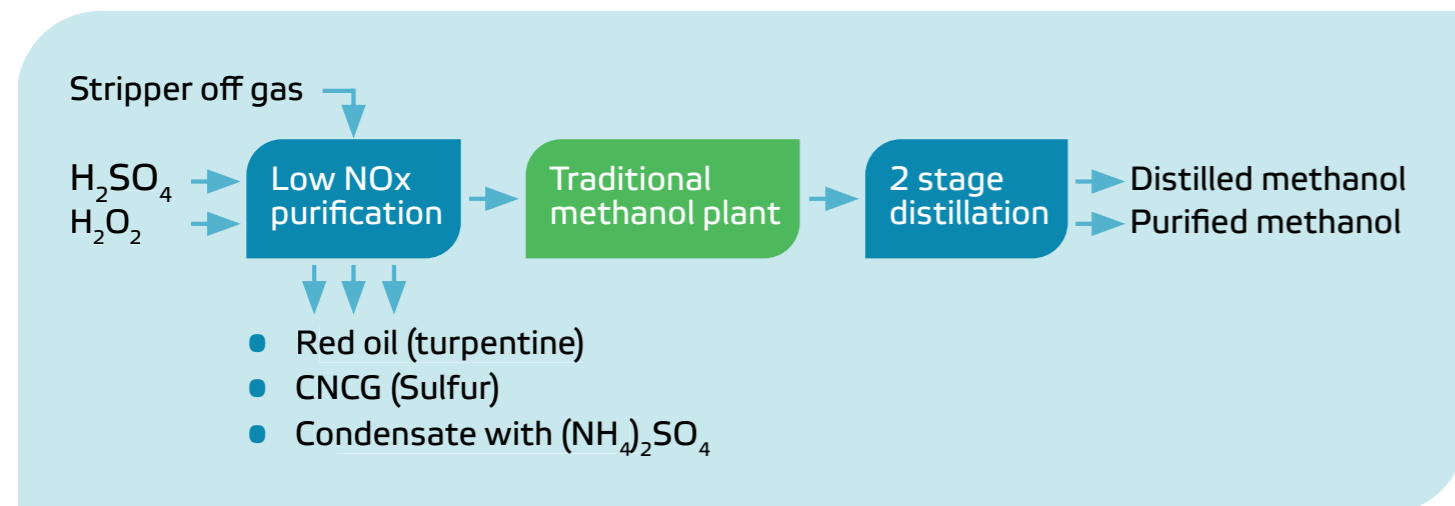
has resulted in lime kiln capacity issues.

To take the pulp mills forward, Valmet and several industry partners have developed a new purification technology. Today, it's possible to upgrade existing methanol systems so pulp mills

can produce purified methanol – bio-methanol.

Higher profits and a lower carbon footprint

“The benefits of purifying methanol can come from using it as a fuel at the mill, selling



Purified and distilled methanol is clean enough to be used in other chemical processes like chlorine dioxide production. This will displace fossil methanol used for this purpose at the mill

the purified methanol or debottlenecking the recovery boiler,” says Anders Rothelius, manager of evaporation applications and technology at Valmet. “A pulp mill with a production of 400,000 tonnes of pulp per year produces approximately 15 tonnes of methanol per day, and for a mill like this, the combined benefits could reach several million dollars a year.”

Using purified methanol instead of the normal quality brings benefits like better combustion, lower emissions and higher availability. And if 15 tonnes of methanol per day is used as fuel instead of oil, the mill saves US\$900,000 a year or more, lowering its carbon footprint.

The benefits will be greater for mills with access to a market for bio-methanol. Fossil methanol sells at around \$500 per tonne, but since there is no established market for bio-methanol, it is

difficult to predict its value. Selling 15 tonnes of purified methanol per day at the price of fossil methanol produces annual revenue of \$2.6 million. And it's likely that the bio-methanol will command a premium.

Removing methanol from the recovery boiler fuel mix can also enable increased pulp production. If the recovery boiler is the limiting factor, the mill will be able to produce one extra tonne of pulp for every tonne of methanol that is removed. If extra pulp brings \$250 per tonne, including other costs, 15 additional tonnes of pulp per day will increase profits by approximately \$1.3 million per year.

A methanol upgrade

Liquid methanol systems can now be upgraded with a purification step. And if the resulting bio-methanol is distilled, it becomes so pure that it can be used in



“Purified and distilled methanol is clean enough to be used in other chemical processes like chlorine dioxide production. This will displace fossil methanol use for this purpose at the mill,” says Anders Rothelius, manager of evaporation applications and technology at Valmet, can be contacted by email at anders.rothelius@valmet.com

chemical processes. This makes it possible for pulp mills to displace fossil-based methanol for the production of chlorine dioxide, an important bleaching chemical.

“The methanol purification plant that was built during the development project was operated at a pulp mill for almost 4,000 hours without problems.

The design was later completed and is now proven for commercial applications. The development of the technology was made possible with the help of several industry partners, and we're now ready to help pulp mills use this technology to bring their performance forward,” Rothelius concludes.

Green Packaging International

Consumers worldwide are increasingly demanding packaging that is both recyclable and has the least impact on the environment. Green Packaging International will provide brand owners and packaging manufacturers with the latest developments in all types of processes and materials that are at the cutting edge of green environmental thinking.

Coming soon from the publisher of Pulp Paper & Logistics and Forest Bioenergy Review
Email: greenpackinternational@virginmedia.com

A new era of cost-effective and efficient mill management

Collaboratively-managed pulp and paper mills are able to predict failures before they occur, preventing costly downtime and identifying previously-inaccessible savings potential. John Schroeder* explains what collaborative operations offer

The global pulp and paper industry has for many years relied upon varying levels of fairly basic remote support – in its simplest form, this is reactive and limited to fixing problems as and when they occur. Now, the advent of more proactive, analytical and collaborative approaches has sparked a new era of cost-effective and efficient mill management.

Having worked in this sector for over 30 years, I find it extremely pleasing to see the adoption of not only these new technologies, but also a novel, more collaborative and proactive mindset opening up among mill owners and operators. However, it is a hard truth that this paradigm change has been rapidly accelerated by coronavirus.

Never before has the value of remote collaborative operations to keep mills running efficiently been so widely recognised as during the global pandemic. The value of remote expert collaboration is particularly clear at a time when the ability of diagnostic and asset management experts to travel has been significantly restricted.

Today, industry leaders are more reliant than ever on continuous, virtual access to digital technologies, data analytics and collaborative partners' domain expertise to empower and protect their enterprise. It seems likely that – while the circumstances precipitating this change of



ABB's John Schroeder: 'A collaborative approach enables services to be delivered more effectively'

mindset are dire – the outcomes for mills of a turn towards greater collaboration will be highly beneficial in the long term.

How do Collaborative Operations work?

A remote collaborations approach typically consists of a global network based around regional hubs – such as Collaborative Operations Centers operated by ABB – equipped with advanced applications that connect mill operations, engineering and business management seamlessly with digital technologies and data analytics.

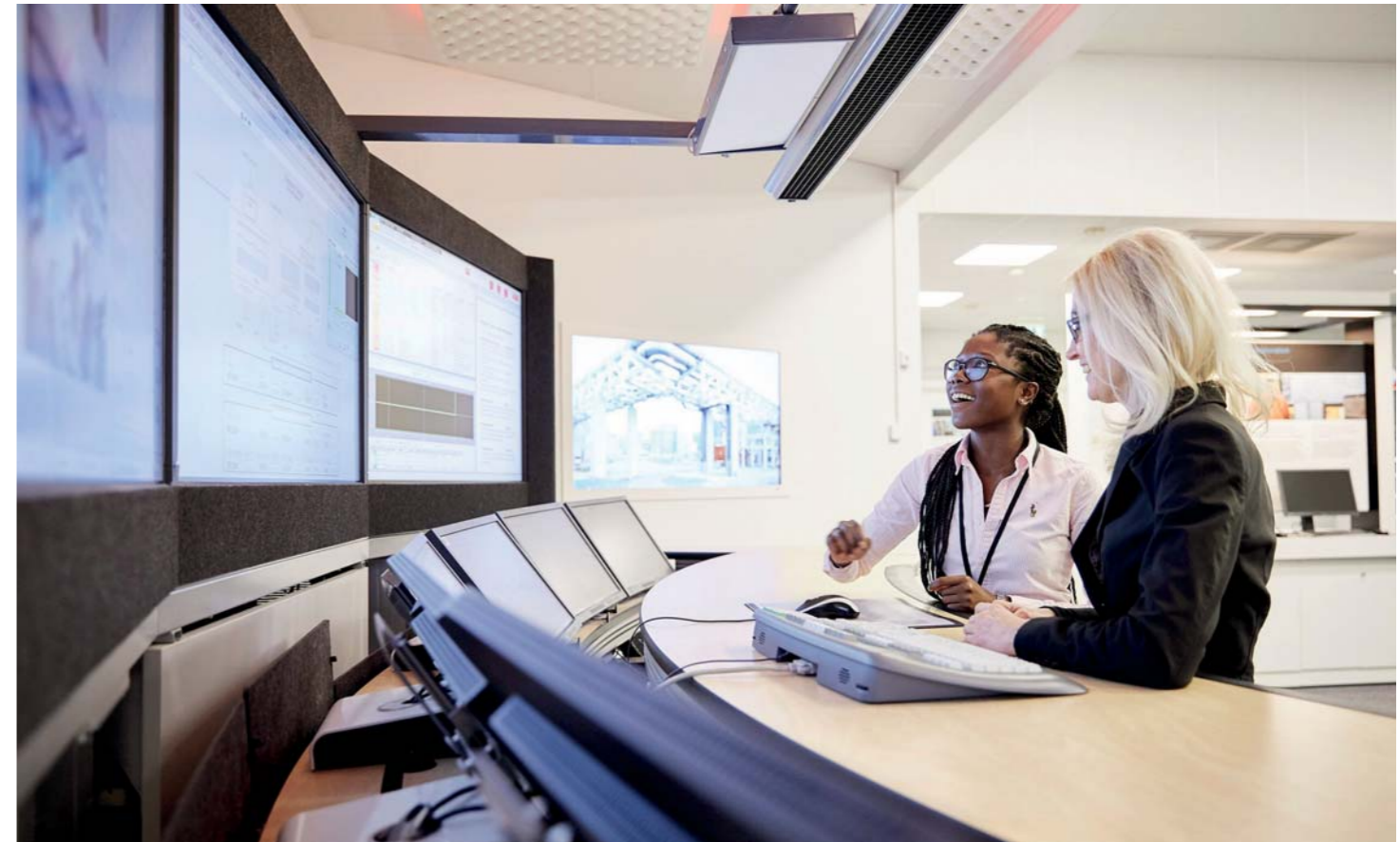
One facet of the approach that is not always clear is the human collaboration between onsite personnel and remote experts – real people who collectively share hundreds of years of pulp and paper, automation and digital expertise. Working together, members of both the onsite and remote teams are able to access the same information and can

customer working closely, yet remotely, with their partner service provider to identify their asset, process or mill priorities. The partner establishes connections to systems, sometimes adding sensors on motors or other assets to collect additional data. Depending on the need, connections are made to the equipment and systems with the necessary data including distributed control systems (DCS), quality control systems (QCS), drives systems, data historians and maintenance systems.

Data is then collected directly from the sensors or systems where the information already exists. Data analytics and machine-learning applications glean important knowledge from this data, enabling proactive/predictive alerts, trending and highlighted anomalies. Remotely-located experts monitor and interpret this information and collaborate with onsite managers to help make the most appropriate, immediate and evidence-based decisions.

A recent example of this continuous collaboration with an ABB customer saw an abnormal decrease in signalling over time from a weight sensor. The analytics found that it was not in fact a sensor issue, but rather a reduction in the ability of other equipment to detect the sensor signal. The onsite team was alerted and addressed the

Cost savings for pulp and paper companies using the remote collaborative approach are significant. ABB customers, for example, have seen an approximate cut of 25 per cent in maintenance costs for equipment



A remote-delivered service is easily scalable and can start with a small initial investment when using ABB's collaborative approach

problem well before any quality issues were incurred.

What are the benefits?

Primarily, collaboratively-managed pulp and paper mills are able to predict failures before they occur, preventing costly downtime and identifying previously-inaccessible savings potential. When issues do occur, the available data enables on-site personnel to take more informed and rapid corrective action, contributing to performance and productivity targets being met.

However, collaborative operations involves more than simply preventing problems before they occur; what is key is the 'actionable insights' based on process data analysed over time. This helps with the effective maintenance of equipment based on its criticality and can also be used to optimise production

processes to reduce costs while meeting specifications.

Higher quality

With continuous monitoring comes the ability to establish alerts based on targets and KPIs. As such, when disturbances occur, or are nearing a crucial threshold, operators and remote experts can be made aware in order to take proactive steps and keep quality where it needs to be to meet specifications.

Cost savings

ABB's Collaborative Operations solutions are proven to deliver significant improvements and savings across a number of industries, such as extending machine life by using immediate data analysis to better manage assets, processes and risks, and reducing maintenance costs by using predictive rather than preventive and reactive

maintenance practices.

Cost savings for pulp and paper companies using the remote collaborative approach are significant. ABB customers, for example, have seen an approximate cut of 25 per cent in maintenance costs for equipment.

Cost efficiencies are derived from many sources, including adhering to target product quality levels and boosting efficiency in the use of electricity, fuel and raw materials. They are also found in increased production speed, reduced number of sheet breaks, increased output and proactive problem-solving and maintenance that avoids failures and unplanned shutdowns. The extensive data analytics and expert support enables onsite managers to streamline preventive maintenance and enables maintenance organisations to focus on other important tasks.

There is still the perception among mill managers that the collaborative approach requires a huge investment. On the contrary, a remote-delivered service is easily scalable and can start with a small initial investment; a supplier can start monitoring just a few critical motors and gradually expand to monitoring all assets within the mill. Once customers proceed with implementing the collaborative approach to manage one problem or area of plant operation, they gain confidence in the framework and have the evidence needed to expand.

Improved maintenance efficiency

With ongoing data and analytics, mills can be efficient beyond problem solving. The reality is that they now have a deep understanding of asset health and a prioritised preventive

maintenance plan. Instead of wasting time on routine maintenance that is not critical, mills can better serve the needs of operations by focusing maintenance where it matters most.

Increased productivity and reduced risks

A recent example of where remote collaboration has delivered tangible benefits can be seen at the Gävle mill belonging to leading Swedish packaging materials producer, BillerudKorsnäs, one of dozens of pulp and paper mills connected to ABB using Collaborative Operations. For the Gävle mill, its status as an ABB Collaborative Operations customer means that specific, in-depth expertise with its installed ABB control systems is not needed. For example, when an alarm is triggered due to abnormal values, the mill's operators are

able to rely upon ABB's experts to interpret the issue, provide detailed analysis and send fully qualified service technicians to check the causes of the alarm on site – preventing disruption and production losses.

"We do not have the very specific expertise of the control systems. The Collaborative Operations Center catches up with issues early and gives us access to ABB's expertise. In this way, we prevent disruptions and production losses," says Andreas Eriksson, service engineer at BillerudKorsnäs.

In another recent example, ABB helped a North American packaging supplier that had previously been hesitant to embrace remote collaboration capabilities to keep their production running through remote control loop tuning. The company – a critical supplier of packaging materials to a large

metropolitan area – encountered a situation with weight variation during the coronavirus lockdown. They had limited expertise on site due to social distancing and needed support understanding why they were experiencing 2-Sigma CD weight variances with higher grades, which was causing their paper machine to slow down.

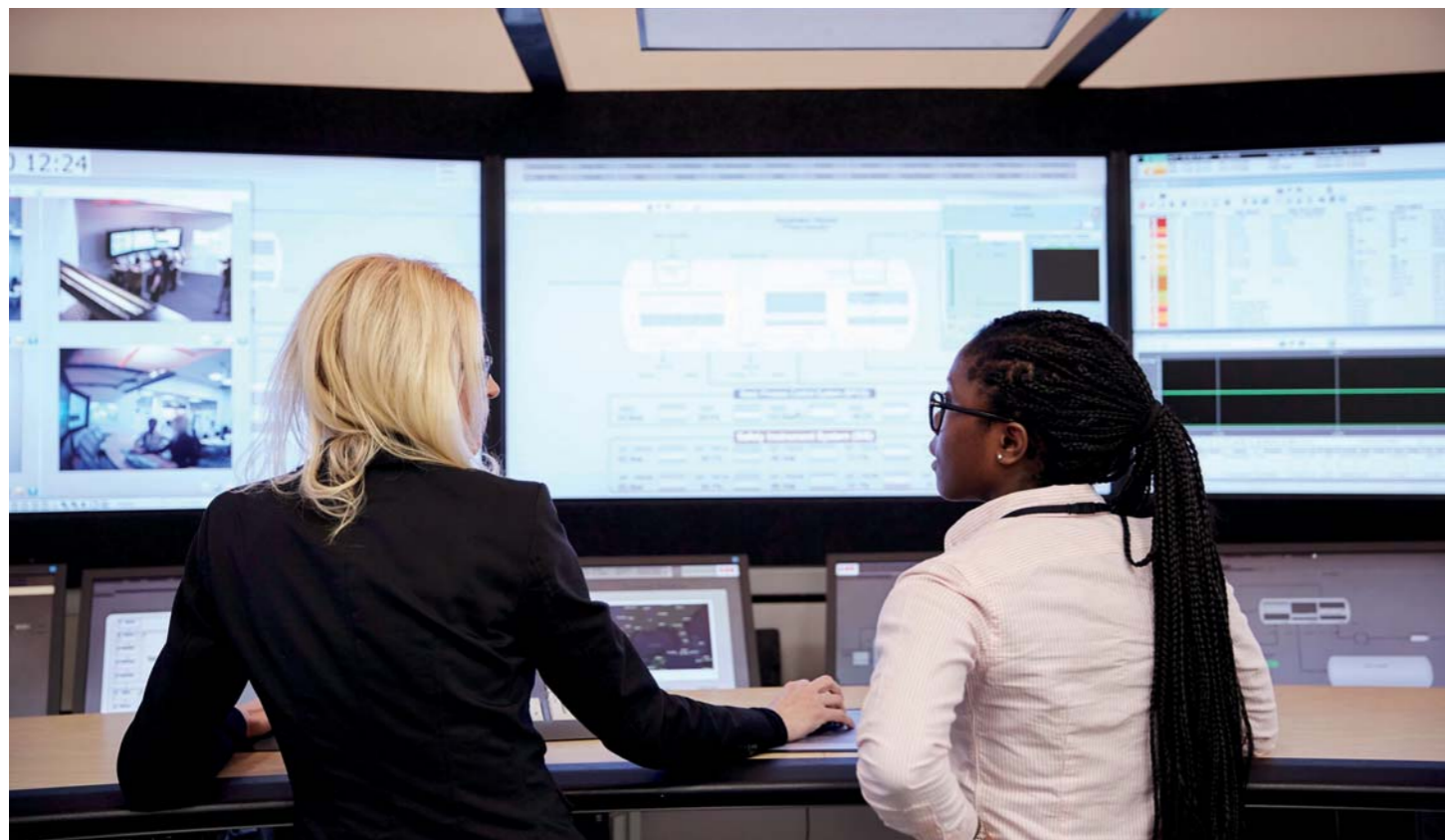
Remote diagnostics were used to reach a solution and ABB's experts found a mapping error in the CD weight profile. Operations were quickly normalised, with improved CD control and the paper machine on its way back to normal speed, all under remote supervision by ABB. The customer was so impressed with the speed and diagnostic capabilities available by using remote connectivity that a proposal for ongoing remote support is now in progress.

The changing mindset towards regarding collaborative operations more of a necessity

than a nice to have underscores the importance of ongoing development to continue to find new and innovative ways to help our customers. That's why our ABB Collaborative Operations team members also work closely with the Artificial Intelligence (AI) lab within the ABB Corporate Research function to further develop AI and machine learning applications, finding ways to help customers with even more optimisation opportunities.

Taking the first step

So, with these benefits in mind, how should mills go about taking the first steps into this developing area? I recommend that any mill considering collaborative operations solutions needs to first identify and select a well-established partner that has the high level of process expertise, plus automation, technology and domain know-how, required



Mills taking even the most modest, first step to a collaborative approach quickly come to understand the benefits



ABB's three-stage cybersecurity model ensures multiple layers of defence

to identify where your needs and highest pain areas lie. A collaborative-based approach is fundamentally more than just technology and needs the skillset – and real people – to analyse the data in a way that delivers a solid return on your investment.

As with any new service framework, customers naturally need reassurance about the level of proactivity and benefits that will be provided. Mills taking even the most modest, first step to a collaborative approach quickly come to understand the benefits obtained from the range of proactive alerts that are available, and the support from the best experts – wherever they are in the world – provided in real time.

Another area of concern that customers typically need reassurance on is cybersecurity.

When considering any new digital solution, ensure that decisions include how to address cybersecurity concerns, and that multiple layers of defence are implemented. Secondly, it is important to comprehend and respect different cultures and mindsets of your people. For example, the engineering mindset, where safety is critical, tends to seek a deterministic process and system. However, our experience suggests that cybersecurity requires much more dynamic processes that are continuously evolving.

It is worth noting that ABB's three-stage cybersecurity model ensures multiple layers of defence by first establishing a foundational level of technical and organisational security controls to defend against the majority of

the generic threats, continuously managing and maintaining these controls and enhancing with more sophisticated controls. This involves implementing a strong collaborative operation of cybersecurity controls with managed security services.

Summing up

A collaborative approach enables services to be delivered more effectively with continuous access to data and experts for proactive problem finding, better preventative maintenance that focuses on where the issues really are and increasing optimisation opportunities to make on-spec paper at lower cost with less raw materials.

In our highly-competitive environment, especially in the current challenging times, all

pulp and paper producers have to consider how to continually improve performance, efficiency and returns on their operational expenditure. We also have to explore ways to unlock the potential of our processes and equipment to further improve productivity and quality. We can only achieve this by taking advantage of not just IoT technology, data, and analytics, but also – and perhaps more importantly – the continuous monitoring and expert support available by using remote collaboration services to ensure the opportunities made available through digitalisation are adapted for the complexities of the pulp and paper process.

* John Schroeder is responsible for global ABB Ability applications for pulp and paper at ABB Inc.

When one plus one adds up to more than two

Wood, pulp, and paper have long determined the fortunes of the Pöls community in Styria. Here Zellstoff Pöls AG produces long-fibre sulphate pulp and kraft papers. With an additional production line based on the exceptional Andritz PrimeLine paper machine, the Heinzl Group site is now focusing more than ever on the world market

Mountains, forests, trees. Earthy brown and lush green. Visitors to Pöls quickly sense from a distance what the heartbeat of the small community of Styria in Austria feels like.

And the closer they get to the factory buildings and towers of Zellstoff Pöls AG rising into the sky, the more certain they become that Heinzl Group's mill – where long-fibre sulphate pulp

and kraft papers are produced – has shaped the fortunes of the town and region for many decades.

More than 500 people work at the site, and the signs are pointing towards further growth. After PM2, a PrimeLine machine-glazed (MG) paper machine from ANDRITZ, went into operation

back in 2013, another even more powerful machine, PM3, followed in the summer of 2019. With this machine, production has taken a giant step forward with capacity doubling from 100,000 tonnes to 200,000 tonnes of white kraft paper per year.

This marks the dawn of a new era for Zellstoff Pöls AG.

It has finally become a global player, marketing its 'Starkraft' brand across emerging markets worldwide. Zellstoff Pöls AG actively contributes to solutions for sustainably packaged food as their importance grows in supermarkets and fast food restaurants.

ANDRITZ is assisting the

company in its aims. Says Andreas Rauscher, chief executive of Zellstoff Pöls AG: "We have a strong intention to achieve together something extraordinary at all levels of cooperation, whether in management or in technology."

"ANDRITZ does not simply supply machines, but also supports us in the role of consultant and system supplier from the first to the last moments of a project. The formula 'one plus one is more

than two' really does apply to the relationship between our two companies."

A special machine concept

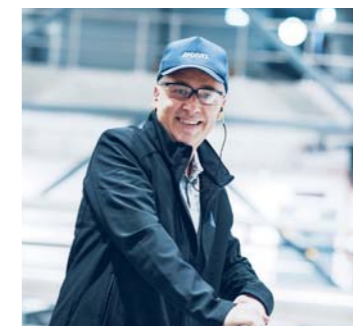
The PM3 project launched in August 2017 bears witness to this. As with PM2, ANDRITZ developed and supplied the new production line, including stock preparation and approach flow system, automation technology, process pumps and, of course, the paper machine itself.



Andreas Rauscher, chief executive of Zellstoff Pöls AG: "We have a strong intention to achieve together something extraordinary"



Werner Hartmann, managing director for the Starkraft business unit of Zellstoff Pöls AG



Erwin Holzinger, senior project manager for PM3 at ANDRITZ AG

than 28 g/sqm, thus perfectly complementing PM2," says Werner Hartmann, managing director of the Starkraft business unit of Zellstoff Pöls AG. "Due to their low basis weight, these paper grades are environmentally friendly and have a very good price-performance ratio. This is precisely why our customers in growth markets are increasingly asking for these grades."

PM3 went into operation at the end of May 2019, two weeks in advance of the scheduled project date, and has since been producing kraft paper for a wide range of packaging applications as well as release papers. With an annual capacity of 100,000 tonnes, a design speed of 1,400 metres per minute, and a working width of 5.4 metres, it is the largest machine of its kind in Europe.

The customised concept, which is characterised by efficient refining, a specially-designed wire section, and a closed draw press, among other elements, is said to be unique. The configuration allows flexible production of paper qualities with maximum strength, high printability, and low basis weight.

"PM3 specialises in high-quality papers with basis weights of less

Some special machine components are required to produce MG paper. An impressive component is the high-precision steel Yankee, where the paper is dried and the required surface property of the paper is created. The PrimeDry MG Steel Yankee from ANDRITZ, with a diameter of 7,315mm (24ft) and a weight of 200 tonnes, is the largest of its kind worldwide.

"Logistics was one of the most exciting phases of the project," recalls Siegfried Gruber, head of project engineering at Zellstoff Pöls AG. "On 4 August 2018, the individual parts were brought to the site on trucks on the interstate freeway as scheduled before being welded together by ANDRITZ experts on site in the weeks that followed. In November, a huge, special crane lifted the Yankee into the machine hall."

MG cylinders (Yankees) made of ▶

The 24 ft MG steel Yankee is the largest of its kind worldwide



The ANDRITZ PrimeLine MG machine at Zellstoff Pöls in Austria

steel have significant advantages over cast iron models. Due to the elasticity of the steel, spontaneous fracture is impossible. Furthermore, up to 10 per cent higher heat transfer is achieved. “The extremely large diameter of the Yankee is of central technological importance,” explains Gruber. “This ensures that the paper remains on the hot surface of the Yankee for the required dwell time, even at maximum production rates, in order to produce the smoothness typical of MG papers. “The effort has been well

worthwhile as both the drying performance achieved and the smoothness of the paper are very good.” **Successful start with good prospects** Another innovative component is the Vertical Screw Thickener (VST). Due to its vertical design, the VST has a small footprint and takes up relatively little space. The vertical design has additional advantages; pulp fed in from above is dewatered by means of gravity and additional mechanically caused pressure. The

entire available screening area at the bottom of the screw is fully used – resulting in high efficiency; the VST dewateres the pulp in Pöls from an inlet consistency of 3 per cent to up to 30 per cent at the outlet – a peak value. And there’s a further aspect: the water circuits of the pulp mill and the paper machine are separated from each other. The VST is located just before the storage tower that supplies PM2 and PM3. The filtrate removed from the screw press is returned to the pulp mill where it is reused. The dewatered pulp is then diluted to

PM3 machine data at a glance

- Annual capacity 100,000 tonnes
- Design speed 1,400 m/min
- Working width 5.4 m
- MG papers for flexible packaging and release: 20–70 g/sqm
- Commissioning: May 2019 – two weeks ahead of schedule

12 per cent with hot water from the paper machine. It worked smoothly right from the beginning. This great start is certainly also



Five TwinFlo disc refiners enable smooth and efficient refining



Based on the ANDRITZ engineering and logistics concept, the Yankee was transported in two halves and assembled on site



Five-stage cleaner system for the new PM3

due to the preliminary tests carried out at the ANDRITZ Stock Preparation Pilot Plant in Graz.

This raises the general questions of how PM3 has performed in the first five months of operation and expectations for the future.

“We haven’t completed all of

the performance tests yet, but our experience has been very positive so far,” says Jürgen Rieger, chief operations manager at Zellstoff Pöls AG. “The start-up phase was impressive. Operation is very stable, and the paper grades with basis weights between 20 and 52



The new Vertical Screw Thickener (VST)

Heinzel Group and Zellstoff Pöls AG

With its industrial companies Zellstoff Pöls and Laakirchen Papier (Austria) as well as Raubling Papier (Germany) and Estonian Cell (Estonia), the Heinzel Group is one of the largest manufacturers of market pulp, speciality and magazine paper, and corrugated base paper in Central and Eastern Europe. Zellstoff Pöls AG



Siegfried Gruber, head of project engineering at Zellstoff Pöls AG

generated annual sales of around €324 million in 2018. It is the largest manufacturer of high-grade, elemental chlorine-free, bleached, long-fibre sulphate pulp in Central and south eastern Europe. Pulp is brought to market with the brand name ‘Orion’, white kraft paper is sold under the brand name ‘Starkraft’.



Jürgen Rieger, paper production manager at Zellstoff Pöls AG

g/sqm were produced successfully. We are optimistic that the machine will also run well under full load.”

Nevertheless, this is by no means the end of the story. In Pöls, there are a number of considerations as to how paper production can be further optimised, for example, by increasing use of digitally supported tools, ‘big data’, algorithms, and machine learning.

ANDRITZ offers its Metris solutions as a partner, especially as these products are already being used in the stock preparation plant at Pöls. In papermaking, they could also increase efficiency by using sensors to collect and

Key components in stock preparation:

- Vertical Screw Thickener (VST)
- FibreSolve FSV pulper
- Five TwinFlo disc refiners
- Five-stage cleaner system
- Five ModuScreen screens in stock preparation and ShortFlow approach flow system

statistically analyse real-time process variables in order to initiate additional improvements directly in operation. Without a doubt, the PM3 marks a milestone for Pöls.

Edges in focus

Seemingly small defects on the edges of a paper web can have huge effects further on. Heimbach TASK specialists have been investigating the reasons. PPL reports

Paper production stopped being taken for granted a long time ago. It is not only the dryer cylinders that are under pressure, the mills themselves are too, so the last thing manufacturers need now is costly disruptions to production and loss of quality.

Edge problems in the pick-up position are a persistently annoying issue. The specialists from Heimbach TASK are very familiar with this, having similar experiences time and again around the world: Even small adjustments can eliminate gremlins in the long-term.

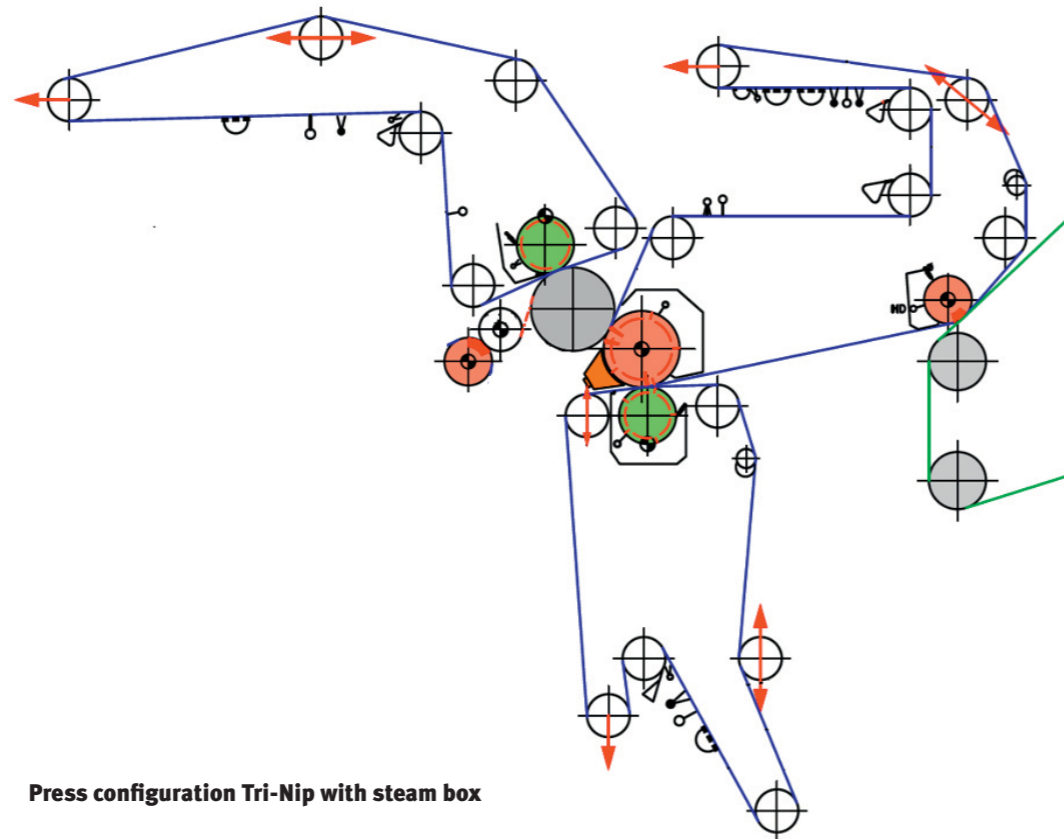
Effects on the whole process

The causes of complications in production are as diverse as the different grades of paper. One of the reasons why customers often seek help is the occurrence of edge problems.

One common edge issue occurs when the paper web, or the trimmed edge of the sheet, begins to be carried along with the pick-up felt. As soon as this defect moves into the press rolls, all subsequent groups or sections are prone to sheet breaks. It's a classic situation: the trim from the fabric or parts of it follow the pick-up felt. The sheet edge remains stuck to the central press roll and tags along or breaks. This results in edge damage, edge creasing or folding of the edge.

Sensitive pick-up position

Minor cause, major impact – this ubiquitous saying applies equally



Press configuration Tri-Nip with steam box

to edge problems. This chain reaction occurs mostly in context with the pick-up position. When

troubleshooting, the attention of TASK is initially focused on this position and the related clothing.

They find that in most cases the surface of the felt is dirty, or even fused, and therefore smooth. The smoother the felt surface, the more the sheet tends to adhere to, and then run with it (glass plate effect).

How is it possible for the pick-up felt to change so much? The causes would tend to be incorrectly adjusted suction elements, inadequate suction box design and too high temperatures due to a steam box.

Let's take a closer look at these weak points in the following cases.

Correct setting of the suction elements

Encountering edge problems after only two days of operation, the

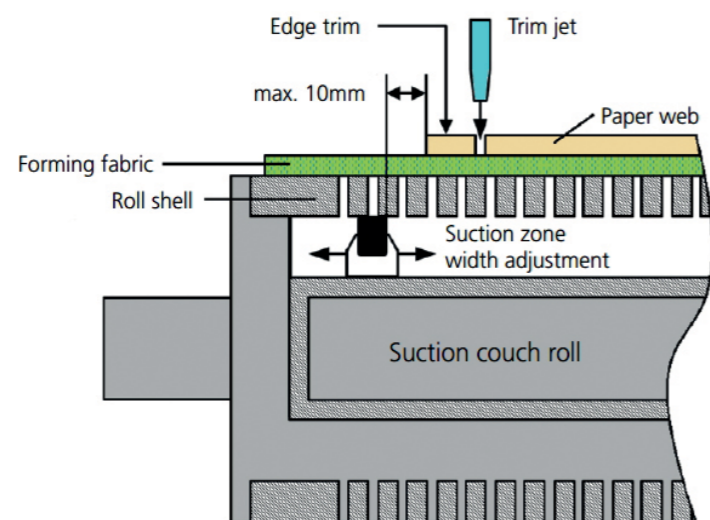


Figure 1: Suction couch roll with optimum width adjustment of the suction zone

customer was rightly surprised. Regardless of who supplied the felt, every time a new one was installed, the sheet followed the felt and folded in the press.

A series of investigations enabled light to be cast on the subject. The TASK team examined the dry content of the trim, the edge deckles of all suction chambers in the forming and press sections as well as the steam blow box. Measurements of the moisture content of the individual sections were followed by felt permeability analysis. This involves injecting pressurised water into the felt and measuring the flow rate.

All the checks, investigations and analyses led to the following diagnosis – the edge deckles of the suction chambers in the suction couch roll and suction press roll were not in the optimum position. This resulted in low dryer content at the sheet edges and subsequent following of the trim. In addition there was unequal load distribution of the first press on FS/DS.

These findings and the recommendations for optimisation enabled fast and precise

corrections of all relevant settings. The machine has been running without problems ever since.

The general advice is that for optimum suction at the sheet edges, suction box deckles should be set to about 5-10mm outside the paper sheet and permanently aligned with the sheet width. In order to protect the fabric edges from excessive wear, the suction box deckles should be slightly offset against each other in the forming section (as shown in Figure 1).

Targeting the steam box

The next case concerned a high-speed paper machine. In the case of fast running machines, steam boxes are often used to increase production or to correct profiles. However, operators frequently complain about edge problems, an issue that in most cases leads to the need for an early removal of the pick-up felt.

There is no doubt that an increase of sheet temperature results in improved dewatering, but this is often achieved at the expense of the pick-up felt. The escaping hot steam is pulled into

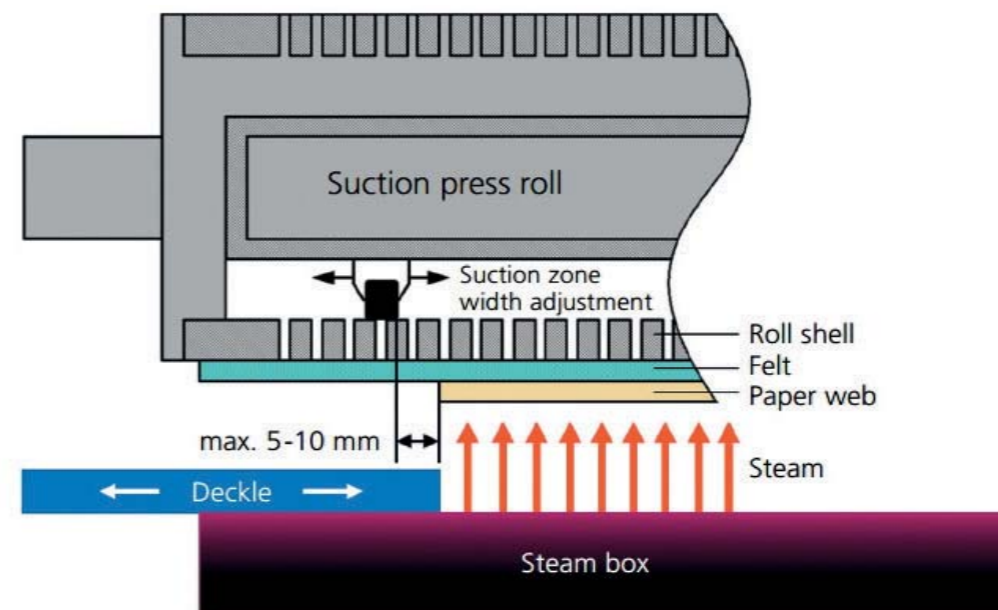


Figure 2: Suction press roll with optimum width adjustment of the suction zone and optimum adjustment of the steam box

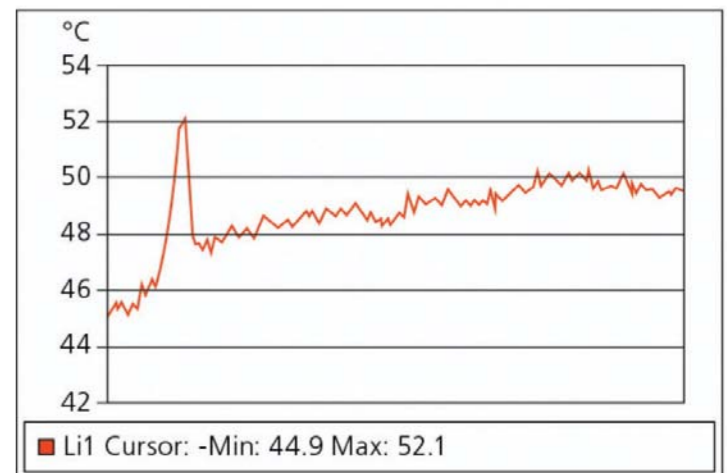
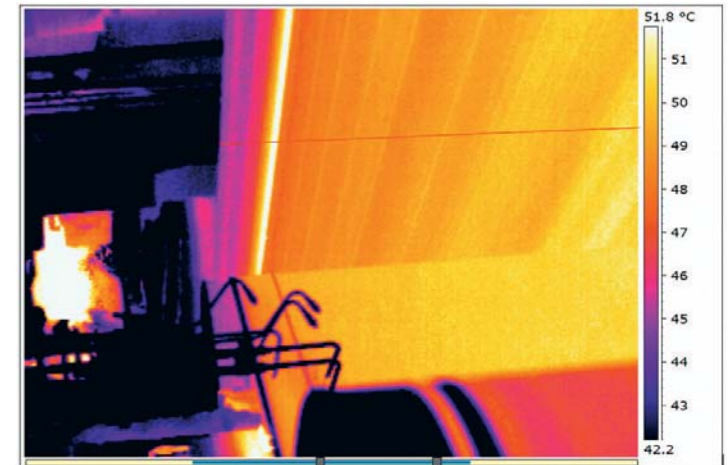


Figure 3: Temperature peaks around the edge zone, with the infrared image above the temperature measurements

the felt by the suction press roll. The felt edges heat up and the fusion of the surface that was

referred earlier occurs.

Such thermoplastic change of the material is often increased further when a steam box is too wide and/or suction press roll deckles are set too wide.

All of these problems had occurred in this case. The analyses by Heimbach TASK showed that the width settings of the discharge and suction zones were not ideal. Movable edge deckles at the steam box as well as an optimum setting of the edge deckles at the suction press roll can remedy the situation (Figure 2). The infrared images showed temperature peaks of up to 10 deg C higher in the critical edge area (Figure 3).

As in the first example just a few simple steps were enough to eliminate the causes of the production problems.

Predict paper strength performance as it is being made

A service for paper makers has been launched by ABB that enables mills to predict strength properties through accurate online measurements – also known as a soft sensor – resulting in a stronger, lighter product that costs less to produce.

Strength Virtual Measurement, an ABB Ability Performance

Service, is suitable for all grades, and works by leveraging machine-learning generated models to produce online strength calculations for one or more properties at a frequency needed to meet machine-specific requirements.

Frequent measurements, with an accuracy that is said to approach lab results, help operators maintain strength properties



An operator at ABB's collaborative Operations Center in Helsinki, Finland

closer to their lower limits, reducing raw material usage, increasing machine speed and enabling faster grade changes.

“Our new approach to soft sensors combines unrivalled proficiency in advanced analytics, a patent-pending online calculation engine with auto-correlation and ongoing performance analysis to create a virtual measurement with proven accuracy and reliability,” says John Schroeder, global product manager for ABB Ability applications for pulp and paper.

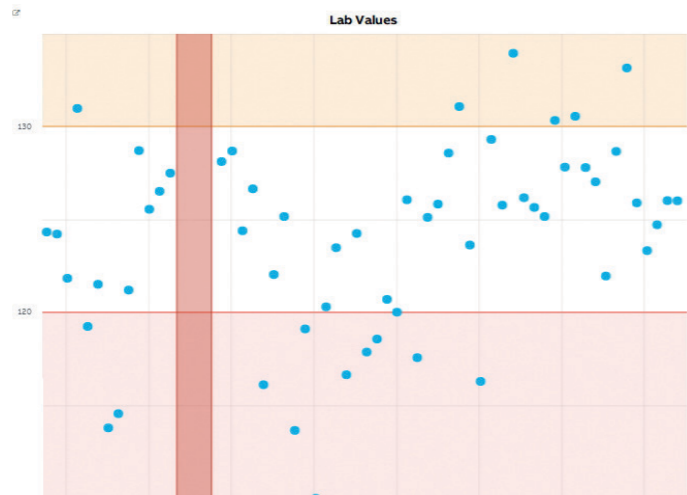
“With built in performance

indices, operators can monitor process parameters, respond to alerts and rapidly adjust paper machine settings to optimise paper strength, reduce costs and increase production throughput, ultimately increasing profitability.”

Strength Virtual Measurement links with third-party systems and ABB services that include distributed and quality control systems, L&W Autoline and other Ability products. It is the first of a number of new Virtual Measurement soft sensor products to be released during 2020.

benefits of the new measurement technology. With conventional methods, this was only possible to a limited extent due to the large variation in results.”

Due to its technological advantages, the NIR measuring technology has the potential to replace established methods for measuring stickies. The publication of a technical rule – DIN SPEC 6745 – on sample preparation and the performance of measurements has created the underlying conditions for setting a new standard in the paper industry, says Voith.



Lab measurements, which are performed only after a reel is produced, before Strength Virtual Measurement trials. White strip is the on-spec paper

Near-infrared techniques enable better measurement of stickies

A new measuring method to detect unwanted tacky contaminants known as stickies has been launched after collaboration between Voith and research and service institute Papiertechnische Stiftung (PTS) at Heidenau in Germany.

The measuring method, which uses a near-infrared (NIR) camera, enables the reliable detection of contaminants through the

papermaking process and offers higher measuring accuracy and a wider range of applications compared to conventional methods.

NIR enables spectral measurements to be compared and assigned to values of known contaminants. This allows further classification of the contaminants based on their chemical composition. Both adhesive and

non-tacky contaminants can be identified and classified using the method.

“Using NIR technology to measure stickies allows the papermaker to determine sticky balances with reliable and sufficient accuracy based on single measurements,” says Dr Linus Friedrich, senior R&D manager for Fiber Systems at Voith Paper.

“This demonstrates one of the

Heat-seal coating that is recyclable helps switch from plastics

A heat-seal coating for paper that is certified as recyclable has expanded the range of packaging products produced by Henkel.

The Loctite Liofol HS 2809-22 RE coating heat seals to both paper and itself and is said to set new standards for repulpability, food safety and flexibility of the paper. It is also intended to maintain the highest levels of sealability when being processed at high machine speeds, significantly increasing performance.

“The design of packaging highly influences its recyclability,” says Henkel’s Brian Stephenson. “Our

goal is to bring a new perspective into the process: We want to rethink how packaging is made from the very beginning.

“Loctite Liofol HS 2809-22 RE opens up new and sustainable design possibilities by enabling to replace PE with paper in a wide range of primary and secondary packaging applications for both food and nonfood.”

The coating’s application range is wide: from hygiene products and tea bags to industrial hardware pouches and chocolate overwrap, supporting the transition from PE packages to paper-based ones, says Henkel.

HS 2809-22 RE is compatible with



Henkel’s Loctite Liofol recyclable heat-seal coating is being used for the paper packaging on Sofidel’s Regina toilet paper

any type of ink and has a good flexibility to paper substrates, tested by independent institutes confirming its good fit for paper packaging. It is suitable for both food and non-food applications.

The coating has been used by tissue manufacturer Sofidel for its Regina toilet paper, replacing PE film wrap with paper. The coating is now used as the heat seal grade for Sofidel’s recyclable toilet paper packaging and considered for all new packaging developments in paper.

“We are extremely pleased with the collaboration and support from Henkel. Their innovative solution and unique approach to problem solving have made our aim of creating a more sustainable primary packaging for our products a reality,” says Marco Iriti, research & development manager at Sofidel.

Autonomous operation for latest BlueLine disperger

A new disperger with hydraulic gap adjustment has been added to Voith’s BlueLine stock preparation range for producing high-quality raw fibre based on recovered paper.

The gap adjustment in the InfibraDisp disperger is infinitely variable with an automated zero-point. The smart control unit enables filling wear to be monitored and prevents plate contact with vibration sensors.

In dispersion, bothersome particles and inks are separated from the fibres and milled to a size suitable for further processing. The newly developed disperger is said to achieve increases in strength of up to 25 per cent and prepares the fibre structures for subsequent starch application.



Voith latest disperger features hydraulic gap control and smart connection

The hydraulic gap adjustment can be made at any time by means of a control panel directly on the machine.

Susana Fernández-Carrión, stock preparation plants manager at Saica in Saragossa, Spain, says: “The hydraulic system of the new InfibraDisp disperger allows us to perform a precise ‘zero-point’ adjustment after the plate change by just pressing a single

button. This eliminates the need for manual intervention on the disperger itself.”

The fully automatic zero-point detection is initiated by the operator and then runs autonomously.

The feed screw is driven by the main drive resulting in a homogeneous and continuous stock feed to the filling; blockages are prevented and performance



fluctuations occurring during the dispersion process are minimised.

“The new system for measuring filling wear will allow us to improve the monitoring of fillings throughout their life cycle, to compare the wear between different fillings or with different raw materials and to detect abnormalities even before a planned shutdown,” says Fernández-Carrión.

Tissue log saw offers improved downstream performance

The latest design of tissue log saw from Paper Converting Machine Company (PCMC), includes two new technologies to improve the performance of both the saw and downstream packaging equipment.

Using patent-pending SmartFlow technology, the Xcut saw provides both independent lane control and independent flight control to eliminate air cuts and increase saw speed. The more robust Xcut is said to be easier to maintain, while still approaching production rates that were previously only achievable by complex continuous-motion log saws.



When feeding multiple packaging machines, SmartFlow can be used to balance and manage the flow of rolls downstream. If one packaging machine goes down, the logs being cut in the lanes feeding that machine will complete the cutting process, and the accumulator will stop feeding

logs into the affected lanes.

If subsequent logs had already been loaded into the affected lanes but had not yet begun the cutting process, the logs will remain there until the packaging machine is ready and the other lanes also have logs loaded and ready to cut. The accumulator will resume loading logs into the affected lanes when the packaging machine is ready and the affected lanes are clear of logs. The saw continues cutting logs in the other lanes without interruption throughout this process.

In addition, the patented Xcut includes an option for a diverter-like controllability, which allows

for infeed lanes to be controlled independently. A single lane can be turned off or on in the span of one or two logs. When paired with SmartFlow, this on-demand, independent lane control balances roll output to downstream packaging equipment, preventing backlogs.

"These key features allow for increased saw speed and a more controlled downstream performance," said Jonathon Zahn, lead mechanical engineer for the Xcut. "Instead of sacrificing one for the other, you get both."

PCMC is part of Barry-Wehmler, and based in Green Bay, Wisconsin, USA.

Wet end operations better optimised with digital controls

Complete digital control over wet-end operations, optimising productivity and profit for paper mills, is provided by the latest generation of ABB's Advanced Process Control (APC).

Wet End Control stabilises the wet-end process and reduces variability by controlling, monitoring and optimising retention performance. ABB says the system uses a multivariable model predictive control approach to predict future wet end process behaviour, making automatic adjustments to stabilise ash levels, reduce white water consistency variability and minimise chemical and filler dosages.

This results in improved machine runnability by helping to reduce sheet breaks, and



ABB Wet End Control in action

accelerating grade changes and break recovery. Papermakers can then track performance from the wet end to the final sheet.

Wet End Control is available as a subscription-based service delivered through ABB Ability Collaborative Operations, with

structured remote monitoring and expert analysis of control performance for sustainable results.

In addition to its impact on productivity, Wet End Control helps to minimise raw material, chemical costs and broke

usage, ultimately reducing the environmental impact and leading to lower steam consumption and increased energy savings.

"We know that continuous monitoring of wet end operations is crucial to driving process improvements," said Ramesh Satini, global product manager for pulp & paper control systems at ABB.

"We developed our Wet End Control solution to address this need by automatically managing targets and implementing cost efficiencies within process constraints. By adopting this ABB service, mills will benefit from ongoing insight and collaboration to optimise stability for long-term gains and minimised operator interventions."

More flexibility and quality in tissue folding and printing

A tissue and napkin folding machine that offers quick changes for materials and configurations along with flexo and digital printing has been launched by OMET.

Describing the MF Line as 'revolutionary', OMET says the machine uses exclusive pneumatic-mechanical technology to provide the maximum flexibility in folding options.

An electrically-controlled processor enables a quick fold change, from the more traditional quarter fold, up to the fancier book fold, in sizes up to 100mm.

Equipped with up to six printing units, the MF is said to meet all possible needs of the ho.re.ca and the retail customer. The XP version has up to eight printing units, and integrated with

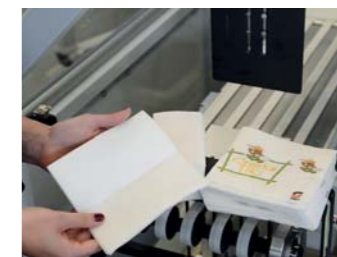


OMET's latest folding machine offers flexibility in formats and print

OMET's digital printing unit, the Chameleon.

"Digital printing ensures more flexibility on orders' execution: the ease of use of the printing subjects' software configuration allows a quick changeover which creates a "just-in-time" management of the orders," says OMET.

A double-lane version of the MF meets higher levels of productivity, enabling the processing of non-wovens and



other kinds of special materials used for the production of disposable products such as dust-catching cloths for domestic cleaning, for barbers and beauty salons.

A modular arrangement offers ease of changing the embossing cassette, along with ensuring high quality, both in ply adhesion and pattern definition. The embossing frames are designed with an anti-vibration system to give longer life to the rolls.

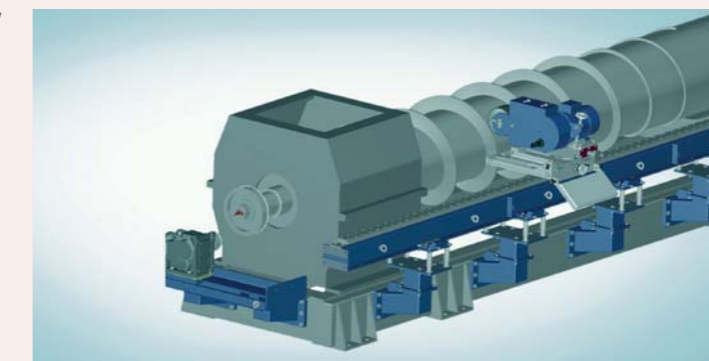
Other features include a point-to-point embossing unit, a quick-change parent roll, automatic web tension control, an unwinder with a paper centering system and electrostatic cleaning.

In situ refurbishment for screw presses launch by Voith

A refurbishment service for screw presses that enables the full restoration of screw performance and reduces downtime has been launched by Voith.

With SmartGrinder the screw is restored in situ, achieving an optimum balance between operating costs and technological performance.

A modular system, SmartGrinder can be set up during operation according to the size and requirements of the screw press to be serviced so that downtime and production losses are minimised. Before proceeding with the repair, a



SmartGrinder enables precise restoration of the press screw diameter

detailed digitised condition measurement is carried out for the screw stem and flights. This allows a professional analysis of the existing wear pattern, indicating the areas that require

further attention.

The design enables precise restoration of the press screw diameter. "It can thus follow the flight geometry exactly, reducing downtimes by up to 20 per

cent compared to conventional repairs," says Geert Tichler at Voith Paper. "As our service provides the flights with the required sharp edges, this results in an optimum removal from the fiber mat."

After the first service, the SmartGrinder can be replaced quickly because the assembly plates remain on the screw press. All new Voith screw presses are already equipped with designated assembly plates. When repaired using the SmartGrinder, there is no need to dismantle the screw or to use spare screws, and costly screw transport is eliminated.

Major technology orders for Guangxi Sun Paper pulp mill in China

Sun Paper in China has ordered cooking and fibre line equipment from Valmet, and pulp dewatering and white liquor plant from ANDRITZ for the new pulp mill being constructed at Beihai.

Being constructed on a greenfield site, the Guangxi Sun Paper pulp mill will eventually have capacity to produce 800,000 air dried tonnes per year of bleached hardwood kraft pulp when it is started up towards the end of 2021. The mill will be constructed in two phases over a period of about five years and will include paper making capacity of 3.5 million tonnes a year.

Commenting on the project, Yanjun Cao, vice general manager of Sun Paper, said: "Our overall target of the project is to build a world-class mill. We wanted to choose advanced and reliable technology that has little impact on the environment at the same time as it performs with high quality and efficiency and has low operating costs. We chose Valmet because they met our goals well



A Twin Wire Press of the type that ANDRITZ will supply to Guangxi Sun Paper's new pulp mill in China

in this project. We have also had good collaboration in all previous projects."

Valmet will supply equipment and process design for continuous cooking, deknottling, screening, brown stock washing, oxygen delignification, and three-stage ECF (elementally chlorine free) bleaching. Corresponding spare parts and site services are also a part of the deal with Sun Paper.

"The cooking and fibre line will feature leading process technology, including the latest developments in our continuous cooking technology, to reach excellent efficiency in energy and raw material utilisation," said Eva

Engelfeldt, senior sales manager in the Fiber Processing Business Unit of Valmet. "A high end-product quality with low effluent flows and high environmental performance will be secured with the latest generation of TwinRoll wash presses throughout the fibre line in combination with Valmet's screening, oxygen and bleaching technology."

ANDRITZ will supply a wet lap system, a white liquor plant an evaporation plant and an ash re-crystallisation system.

The wet end system will have two production lines for a capacity of 1,120 admt/d bleached hardwood kraft pulp, each consisting of a Twin

Wire Press for pulp dewatering, a cutter-layboy and a baling line.

The white liquor plant will have capacity of 10,500 cubic metres a day and comprise recausticising equipment and a LimeKiln. The recausticising plant includes a LimeSlake slaker-classifier, three causticising tank agitators, white liquor filtration with a LimeWhite filter to maximise the white liquor quality, and efficient lime mud filtration with a LimeDry filter ensuring high lime mud dryness, which results in low heat consumption in the kiln. The new LimeKiln, with a capacity of 950 t/d, has a multifuel burner and a high-efficiency LimeCool sector cooler.

The evaporation plant will have a high-concentration section for a total capacity of 1,100 t/h and a final dry solids content of 85 per cent. The ash re-crystallisation system will have an ash handling capacity of 400 t/d, to treat the ash from the electrostatic precipitator by decreasing the chloride and potassium content while recovering sodium and sulphate.

Xuong Giang in Vietnam orders a new tissue machine

A new tissue machine has been ordered from ANDRITZ by the Xuong Giang Paper Mill in Vietnam.

The PrimeLineCompact S 1300 machine, along with a stock preparation, will have a design speed of 1,300 metres per minute and a width of 2.85 metres.

It will process virgin pulp as raw material to produce up to 54 tonnes a day of high-quality facial and toilet tissue along with



ANDRITZ has supplied three of these PrimeLineCompact tissue machines to customers in Vietnam

napkins, with start-up scheduled for the fourth quarter of 2020.

The stock preparation plant will be split into separate short fibre

and long fibre systems and will also include the approach flow system, fibre recovery and broke handling equipment, and pumps.

The tissue machine will use a 12ft-diameter PrimeDry steel Yankee, equipped with a steam-heated hood to ensure efficient drying and energy cost savings. The Yankee will be manufactured at the ANDRITZ facility at Foshan in China.

ANDRITZ will also supply a tailored automation system,

including PrimeControl Machine Control System, Distributed Control System and Multi-Motor Drive along with a complete Low-Voltage Motor Control Center. Detailed engineering, erection work supervision and commissioning services will also be provided.

This S 1300 is the third tissue machine to be supplied by ANDRITZ to the Vietnamese market in recent years.

Toscotec to rebuild a dryer section at Cartiera di Ferrara

The complete dryer section of Cartiera di Ferrara's PM1 coreboard machine in Italy is being rebuilt by Toscotec.

The Ferrara mill's paper machine produces coreboard in the range of 220 to 620 gsm, using 100 per cent recycled paper. The rebuild will increase the mills' output by 30 per cent when completed in the third quarter of 2020.

The project includes two dryer sections. In the first part, Toscotec will install new felt, guide and stretcher rolls; modify the existing frame structure and supply a new frame section. The second part will be completely new and it will feature 16 TT SteelDryers with a diameter of 1,829mm designed for an operating steam pressure of 10bar. The order also includes bearings and housings, steam fits and joints, turbulence bars for the dryer cans, and all the main section components such as felt



Cartiera di Ferrara's mill in Italy

rolls, stretchers, guiding devices, and doctors.

Toscotec will supply mechanical drives for the entire dryer section in silent drive configuration. The services package includes mechanical erection, supervision, commissioning, and start-up assistance.

The existing 1,500mm-diameter cast-iron dryers will be moved to the first part of the dryer section. Toscotec will increase thermal efficiency in the second part using TT SteelDryers

with a larger diameter.

Giulio Spinoglio, chief executive of Cartiera di Ferrara, says: "Out of the various proposals we evaluated for this project, Toscotec's rebuild solution was the most compelling one for two main reasons. First, the timeline of the project: Toscotec gave us good guarantees on the PM1 shutdown time and their previous record of successful rebuilds confirmed their capability to deliver. Second, their technical solution was the most advantageous for us in terms

of production increase and energy efficiency."

Enrico Fazio, sales chief at Toscotec Paper & Board division, added: "Our rebuild solution allows for a significant increase of PM1 production capacity, without changing the length of the dryer section. This means that the positions of the press and the pope reel remain unchanged so that civil works will not be required, thereby significantly reducing the machine shutdown time."

Brown stock washing system upgraded at the Gruvön mill

BillerudKorsnäs has ordered key process equipment to complement the main brown stock washing system preceding the side line for its board machine at the Gruvön mill in Sweden.

The order from Andritz includes a Compact Press which is said to have a small footprint and high availability including high washing efficiency, thus ensuring the production of high-purity pulp used for food packaging. When installed in 2021 it will offer



A Compact Press from Andritz will be part of the Gruvön mill order

output of more than 6,000 admt/d/unit.

Andritz also supplied the DD-Washer, MC pumps and a pulp

Screw Press for the new brown stock washing side line, which was started up in 2019.

BillerudKorsnäs is a leading player for liquid packaging board and a global leader in the production of high-porosity sack paper manufactured from primary fibres. In Europe, the paper maker is a leader in primary fibre-based kraft paper, fluting, and pure white liner and is also one of the largest producers of cartonboard from primary fibres.

Dormant Nordic Kraft pulp mill in Canada to be upgraded

Leading forest product supplier in Canada, Chantiers Chibougamau, is having its Nordic Kraft pulp mill in northern Quebec upgraded by ABB.

The project will transform the mill at Lebel-Sur-Quevillion, which had been dormant for 12 years prior to its acquisition in 2018. ABB says it will become a modern, efficient and fully-integrated digital site, equipped for the first time with complete quality control. This will accelerate Nordic Kraft's issue identification and produce



semi-autonomous responses to conditions leading to fewer quality rejects.

"We wanted a reliable and flexible way to make this mill, inoperative for 12 years, more productive and profitable," said Dany Bellemare, plant upgrading

project manager at Nordic Kraft. "We were impressed by ABB's commitment to demonstrating the value in every part of their proposed solution and look forward to a long and successful collaboration."

ABB will supply and integrate

new drives and an Ability Quality Management System. This includes a Web Imaging System and Web Monitoring System into the Ability System 800xA distributed control system. ABB will provide a comprehensive service contract and remote connection for diagnostic and service activity.

The order includes a new NP1200 scanner with online sensors for moisture, brightness and ABB's revolutionary Basis Weight Sensor, which offers industry-leading levels of accuracy and reliability in basis weight measurements.

Tissue machine at Vajda Papír meets performance targets

Impressive performance has been reported for the new tissue machine installed by ANDRITZ at Vajda Papír's Dunaföldvár mill in Hungary.

The PrimeLineCompact tissue machine – with a design speed of 2,100 m/min, a working width of 2.74m, and a capacity of 35,000 tonnes per year – produces tissue for high-quality facial wipes, napkins, toilet tissue, paper towels, and kitchen roll.

The machine is equipped with a PrimePress XT Evo shoe press for improved dewatering as well as a 16ft-diameter PrimeDry Steel Yankee and a ReEvaporation heat recovery system.

"We are really satisfied with the quality of our paper. We have received very positive feedback from our customers, who are



ABB is proving comprehensive support for the Vajda Papír tissue mill with a digital link

impressed by the softness and handfeel," says Attila Vajda, chief executive of Vajda Papír.

The tissue production line has an online connection to the new Metris Performance Center at Graz in Austria. The centre offers comprehensive support for the Vajda Papír tissue mill by providing advanced digital services such as the Metris UX Platform and the proven Metris Optimisation of Process Performance (OPP), thereby ensuring the best process conditions and smooth production.

Offline coater for Oji Papéis Especiais in Brazil

An off-line coating machine is being supplied by Valmet to Oji Papéis Especiais for its mill in Piracicaba, Brazil.

With the PC4 coater, Oji Papéis Especiais (OPE) hopes to increase thermal paper production capacity and strengthen its competitiveness globally, focusing on the Brazilian, South American and North American markets. The PC4 will increase OPE's thermal paper production capacity by 80 per cent when it starts up next year.

The 4,200mm-wide (reel) off-machine coater will produce thermal grades in the basis weight range of 44-55 g/sqm. The design speed is 1,200 m/min.

Giovani Varella, industrial director at Oji Papéis Especiais, said: "Valmet's curtain coating head is a coating application system with two simultaneous coating slides without contacting the paper and an optimum coating profile, and the low-energy consuming air dryers are highly efficient.

"The PC4 coater will also have the latest technology for distributed control system, the Valmet DNA automation system, as well as Valmet's measurement and quality control systems. This new PC4 coater machine will position OPE among the world's largest and most modern thermal paper mills."



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Seventh tissue line from Valmet for Hayat Kimya in Turkey

Turkish tissue producer Hayat Kimya has ordered a seventh tissue line from Valmet for its mill at Mersin.

It will be the second line supplied by Valmet at the mill and will add 70,000 tonnes of capacity to make facial, toilet and towel tissue products.

Hayat Kimya has been expanding by adding a new tissue line every other year. Valmet has delivered six Advantage DCT 200TS tissue lines to Hayat Kimya's mills in Turkey, Russia and Egypt. It also extensively rebuilt the customer's TM1 machine in Turkey in 2015. "We have developed a great



Seventh heaven – from left: Björn Magnus, Paolo Vezil (Valmet), Avni Kigili (Hayat Kimya), Haluk Arican (Valmet), Yahya Kigili (Hayat Kimya), Jan Erikson (Valmet), Lütfi Aydın (Hayat Kimya), Magnus Holmberg (Valmet) and Kemal Arslan (Hayat Kimya)

collaboration between Hayat and Valmet teams during the years, and we are happy to continue our long relationship also in this project. When everybody knows each other, the technology and the process, it is easy to achieve great

results together," says Lütfi Aydın, director of the paper group at Hayat Kimya.

The TM8 machine will have a width of 5.6m, a design speed of 2,200 m/min and will use virgin fibre. It will include stock

preparation systems and an Advantage DCT 200 TS tissue machine equipped with an OptiFlo headbox and a cast-alloy Yankee cylinder, a ViscoNip press, an AirCap Heli hood and air system prepared for co-generation, WetDust dust system, sheet transfer system and a SoftReel L reel. The line also includes a Valmet F(O)CUS Rewinder. The stock preparation line will consist of OptiSlush pulpers, OptiFiner conical refiners and OptiScreen machine screens.

Hayat Kimya is part of the Hayat Group which entered the paper industry in 2008 and now has capacity to produce 490,000 tonnes of paper products a year.

Upgrades for PT TEL's pulp production systems

Pulp production upgrades have been ordered from Valmet by PT Tanjungenim Lestari Pulp and Paper (PT TEL) in Indonesia.

The mill's continuous cooking system will be upgraded to a capacity of 1,800 air dried tonnes per day, along with the addition of two sets of new automatic baling equipment. With the new investments, PT TEL is expecting to increase its pulp production capability and improve its pulp quality.

"Our target in the cooking system



upgrade is to reduce our unit wood consumption by increasing the pulp yield and reducing reject content,

to enhance our pulp quality and to lower the specific load on the recovery boiler," says Hiroyuki Moriyasu, president of PT TEL.

"By upgrading to Valmet's latest continuous cooking system we will significantly increase the pulp yield which will reduce our operating costs and allow us to be capable to increase the overall mill pulp production. Moreover, with the two new sets of baling equipment, we aim at improving availability and production stability. We have logically selected the advanced and

reliable technology that supports us in achieving our target in this project."

The project will add Valmet's G3 Technology to the existing cooking system and include an ImpBin prior to the existing digester vessel, which ensures homogeneous chip steaming and impregnation, with startup expected in the fourth quarter of 2021.

An earlier first quarter 2021 startup is expected for a new servo-driven wire tyer that will process up to 300 bales an hour.

Extended cooperation with UPM in Pietarsaari

A supply agreement with UPM for pulp, steam and electricity used by the BillerudKorsnäs mill at Pietarsaari in Finland has been extended.

The original agreement was signed in 2012 in conjunction with

the acquisition by BillerudKorsnäs of the Pietarsaari mill and was initially scheduled to expire in June 2022.

The newly-agreed supply contract is based on market conditions and was implemented

in June 2020.

As part of the renegotiation, the parties have agreed that BillerudKorsnäs will pay compensation of €15 million to UPM during the coming year in three instalments.

"I am pleased that we have reached an agreement that secures the long-term paper production in Pietarsaari to the benefit of both parties," said Helene Biström, executive vice president of the paper division at BillerudKorsnäs.

Latest inspection technology for ITC's board machine in India

A new-generation machine vision system is being supplied to the Paperboards and Specialty Papers Division of ITC in India by Valmet.

The IQ web inspection system (WIS) will be installed on ITC's BM7 packaging board machine, replacing an existing system, enabling the mill to inspect and improve paper quality in greater detail.

"Our BM7 already has Valmet quality control solutions, and we are happy to work together

with Valmet on progressive improvements too, such as the upcoming runnability improvement," says Sanjay Singh, chief executive of ITC Limited Paper Boards and Specialty Paper Division.

The IQ WIS includes two camera beams and two LED light beams for transmission, top high-angle reflection with side light and bottom high angle reflection using multi-geometry technology with intelligent 8K Dual-line TDI cameras.

"The customer was seeking for



The IQ web inspection system uses multi-geometry technology

the latest inspection technology to improve the product quality," says Pravin Tripathi, sales chief

for automation in India at Valmet. "Our new WIS features matched their requirement of the limited installation space and advanced line scan technology of detecting faint blade lines and calendar marks. In addition, we did the test for its blade line samples, and as the results were good, the customer was even more confident about our solution."

The Paper Boards and Specialty Paper Division at ITC operates 11 machines at three locations with production capacity of more than 800,000 tonnes per year.

Automated paper testing selected for Progroup's most environmentally friendly mill

Efficiencies at the Sandersdorf-Brehna mill in Germany are expected to be boosted by reducing off-spec product with the use of ABB's next generation L&W Autoline.

ABB has been selected by Progroup – one of Europe's leading containerboard and corrugated board manufacturers – to supply and install the L&W Autoline automated paper testing system for the new 750,000 tonne-capacity PM3 paper machine at the paper maker's third mill in Sandersdorf-Brehna, Germany.

With production planned to start in late summer 2020, the mill is being set up to achieve industry-leading standards of energy efficiency and sustainability in line with Progroup's 'Green Hightech' philosophy. ABB's L&W Autoline system contributes by enabling



ABB L&W Autoline L automated paper testing system

24/7 quality control to eliminate wastage associated with off-spec production.

"We optimise every part of our paper mill to conserve resources in all areas of production," said Peter Resvanis, head of growth processes in paper at Progroup. "We were convinced by ABB's many years of experience in the field of automatic

paper testing and the use of measuring methods that conform to the highest standards."

The PM3 paper machine uses 100 per cent recovered paper as raw material. An integrated, circulating water treatment plant reduces the fresh water consumption by around 80 per cent compared with similar mills. This can save 3.75

million cubic metres of fresh water per year, says ABB. Innovative production technologies also reduce annual carbon dioxide emissions by 170,000 tonnes.

"We have supported Progroup as it realises its pioneering vision for an environmentally-aware, sustainable future for the pulp and paper industry," said Per Sandstrom, head of lab and process testing measurements for ABB Pulp and Paper. "L&W Autoline's ability to rapidly enable smart decision-making and apply process adjustments will ensure that all quality specifications are met with maximum efficiency."

The L&W Autoline system is said to be 10 times faster than manual testing, enabling rapid reduction of off-spec production. L&W Autoline is part of the ABB Ability Quality Management System suite for optimising paper quality.

Esper in line to be chief executive at Heimbach

Marco Esper is to join the board of Heimbach GmbH from the beginning of October, succeeding managing director Peter Michels, who is retiring at the end of this year after 25 years with the supplier of goods and services to the paper industry.

Until then, Esper and Michels will jointly manage Heimbach's Paper Machine Clothing Division (PMC) to ensure a smooth transition.



Marco Esper is joining Heimbach from Voith Paper

After a successful introductory period, Esper will be appointed as

chief executive on 1 January 2021 at the latest.

Esper studied processing and process engineering (paper technology) at the Technical University of Dresden. After various positions as an engineer in technology, project management, PMC service and as sales director at Voith Paper in Heidenheim and in China, he was most recently responsible for the Products & Services Division and a board member of the Voith

Paper Group Division.

Thanking the customers and employees of the Heimbach Group for their "trust and cooperation", Michels commented: "In a family business with over 200 years of tradition, I was able to play a decisive role in shaping a period of almost 25 years as managing director. We have pushed ahead with the internationalisation of the Heimbach Group and asserted our independence in a consolidating market."

New MD for DS Smith's recycling division

Rogier Gerritsen has been appointed as managing director of DS Smith's Recycling Division. Reporting to Colin McIntyre, divisional chief executive for Paper & Recycling, Gerritsen will be responsible for the group's recycling operations across Europe and managing around six million tonnes of paper each year for recycling into DS Smith's own and partner mills.

Gerritsen succeeds Jochen Behr who is leaving DS Smith at the end of July, after more than three years managing the Recycling Division, to take up an opportunity

in Australia.

Joining DS Smith in 2012, Gerritsen has worked in senior roles in both the Packaging and Paper divisions. He is currently working as a cluster director for the Paper Division, overseeing the operational and commercial activities of some of DS Smith's largest mills for recycled papers in Europe. He will move into his new role in October with Jonathan Silk, finance director for the Recycling Division, acting as interim managing director from August to October.

"Rogier brings extensive

knowledge of paper and packaging production and this will be key in our next phase of growth," said McIntyre. "Recyclability at the very heart of our sustainable packaging solutions and making sure we are at the forefront of hard to recycle materials is critical to maintaining and growing paper-based packaging recycling rates across Europe."

Commenting on his new role, Gerritsen said: "As we see more packaging entering household recycling streams, we must focus on making sure that the right collection infrastructure, namely



New managing director of DS Smith's Recycling Division Rogier Gerritsen

separate collections of paper, are in place to facilitate the best quality paper possible for recycling."

Michalski to be chief executive at BillerudKorsnäs

Christoph Michalski has been appointed as president and chief executive of Swedish paper packaging manufacturer BillerudKorsnäs, starting in November. He will be taking over from acting chief executive Lennart Holm.

A German national, Michalski has been chief executive of Vinda International Holding Ltd, a leading Asian producer of high quality and innovative tissue and hygiene products. Previously he

held a number of senior executive positions within the SCA group and he also has experience from the fmcg sector working for Unilever and Fonterra.

BillerudKorsnäs chairman Jan Åström commented: "Christoph is a strong leader and experienced CEO from the forest products industry, with a track record of leading transformational journeys towards customer and innovation focus in a global context.

"His international experience is



Christoph Michalski will take over as chief executive of BillerudKorsnäs in November

hard to match, and with his proven ability to create shareholder value through profitable growth, I am convinced that Christoph is a leader that can continue and accelerate the strategic journey

of BillerudKorsnäs to secure long-term value creation."

Michalski said: "I see enormous potential in the company. The world is undergoing a transformational shift towards environmentally-sustainable packaging and e-commerce, and BillerudKorsnäs has just the right position to capture the values in that shift. I look forward to taking on the challenge of developing BillerudKorsnäs into its full potential."



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